AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Original) A heat regulating device for regulating a heat flow into and out of an integrated circuit semiconductor body comprising:

a thermo-electrical structure that induces heat to and/or dissipates generated heat away from a region of a semiconductor body; and

at least one layer of a conductive material in contact with the thermo-electrical structure for conducting heat flow.

2. (Original) A heat regulating device according to claim 1, the thermo-electrical structure is a trough within the body of the layer of the conductive material.

3. (Original) A heat regulating device according to claim 1, further comprising a plurality of the thermo-electrical structures connected to form a spreading assembly.

4. (Original) A heat regulating device according to claim 3, the spreading assembly is operatively connected to a heat sink.

5. (Original) A heat regulating device according to claim 1, the thermo-electrical structure is a conductive pathway for heat transfer.

6. (Currently Amended) A heat regulating device according to claim 1, the thermo-electrical structure has a structure of line patterns selected from a group consisting of: maze-shaped structure, helix structure, and a spring structure.

7. (Original) A heat regulating device for regulating a heat flow of an integrated circuit comprising:

means for inducing heat into or dissipating heat away from a region of a semiconductor body of the integrated circuit; and

heat conducting means in contact with the means for inducing heat into or dissipating heat away from the region of the semiconductor body.

8-22. (Cancelled)

23. (New) A heat regulating device according to claim 3, with components embedded into the spreading assembly to manage the heat flow away from and/or into the semiconductor body.

24. (New) A heat regulating device according to claim 6, the thermo-electrical structure having a denser distribution of line patterns towards the center of the structure and a less dense distribution of lines towards the outer limits of the structure.

25. (New) A heat regulating device according to claim 1, the thermo-electrical structure being embedded with measuring devices to measure various physical properties of the semiconductor body.

26. (New) A heat regulating device according to claim 1, the thermo-electrical structure being an external element attached to the surface of the heat regulating device.

27. (New) A heat regulating device according to claim 1, fabricated from a combination of various layers of silicon carbide and diamond.

28. (New) A method of reducing the accumulation and concentration of stress in ICs comprising:

providing an integrated circuit with a semiconductor chip having hot spots generated therein with a heat regulating device including:

a thermo-electrical structure for at least one of inducing heat into and dissipating generated heat away from a region of a semiconductor body; and

at least one layer of a conductive material in contact with the thermo-electrical structure for conducting heat flow.

29. (New) The method of claim 28, further comprising creating a uniform temperature gradient throughout the semiconductor body.

30. (New) The method of claim 29, the uniform temperature gradient being created by inducing heat into various regions of the semiconductor body.

31. (New) The method of claim 29, the uniform temperature gradient being created by dissipating heat from the hot spots into the layer of conductive material of the heat regulating device.